

REMARKS

Claims 2 and 5 are all the claims pending in the application.

Claim 5 is amended to recite “a pressure-sensitive adhesive layer comprising, as which is ~~made of at least~~ a pressure-sensitive adhesive, ~~comprising~~ a final polymer in which the content of low-molecular components having a molecular weight of 105 or lower is 10% by weight or lower, and the final polymer has a weight average molecular weight of 930,000 to 2,100,000”. Claim 2 is also amended to recite “the final polymer”. Support may be found, for example, in Reference Examples 5 and 6 on pages 18-19 of the specification as originally filed. No new matter is added.

Entry of the Amendment is respectfully requested along with reconsideration and review of the claims on the merits.

Statement of Substance of Examiner's Telephonic Interview

Applicants' representative attempted to contact Examiner Zirker by phone on December 31, 2003, and left a voicemail message requesting a telephonic interview. Examiner Zirker attempted to reach Applicants' representative on January 5, 2004, and left a voicemail message. Applicants' representative contacted Examiner Zirker on January 6, 2004. After a brief conversation where the case in general was discussed, Examiner Zirker noted that since the application was pending after issuance of a Final Office Action, he preferred not to get into details about the application, indicating his preference to receive a filed response by the

Applicants. At this point, the telephonic interview was ended without any resolution or agreement reached.

Rejection of Claims Under 35 U.S.C. § 112

The rejection of Claims 2 and 5 are maintained under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants respond as follows.

As previously noted, Claim 5 is amended. In order to advance prosecution and in order to clarify the present invention, Applicants amend Claim 5 by taking out language which is assertedly equivalent to meaning “comprising” without changing the scope of the claim by this particular amendment.

Applicants respectfully submit that Claim 5 is now even clearer and definite, and in accordance with the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Rejection of Claims Under 35 U.S.C. § 103

The rejection of Claims 2 and 5 is maintained under 35 U.S.C. § 103(a) as being unpatentable over EP ‘470 taken in view of Applicants’ alleged admissions in the specification regarding the usage of pressure sensitive adhesive sheets in semiconductor processing operations, substantially for the reasons set forth in paragraph No. 3 of Paper No. 14.

Applicants respond as follows.

The Examiner asserts that EP '470 discloses a number average molecular weight range of 100,000 to 500,000 which converts to a weight average molecular weight range of 200,000 to 1,000,000, thereby overlapping with Applicants' claimed range. As such, the Examiner states that Applicants' arguments such as whether the molecular weight is claimed "at the end of the reaction" versus "free reaction components" (See Response, page 4, bottom paragraph), or that the claimed adhesive is "for use in the medical field" are each seen as clearly inadequate to rebut the "prima facie" case of record.

By amending Claims 2 and 5, Applicants more clearly claim, e.g., a final polymer with a weight average molecular weight of 930,000 to 2,100,000.

Applicants more clearly specify the significance of the final molecular weight values by incorporating such requirement in the claims. The present invention measures the molecular weight of the polymer at the end of the reaction to determine the content of low molecular weight components. This is apparent from Reference Examples of the present application, for example, Reference Example 5 on page 18 stating, "Thus, a polymer solution of Reference Example 5 was obtained. [next paragraph] This polymer had a weight-average molecular weight of as determined by gel permeation chromatography of 930,000." And also, for example, Reference Example 6 on pages 18-19 stating, "After the contents were emulsified, emulsion polymerization was conducted to obtain an aqueous dispersion of Reference Example 6. [next paragraph] This polymer (sol) had a weight-average molecular weight as determined by gel permeation chromatography of 2,100,000." Thus, it is clear from the disclosure that Applicants' claim a weight-average molecular weight range based on final or post-reaction polymers.

In contrast, EP '470 discloses pre-reaction acrylic copolymers having a number average molecular weight range of 100,000 to 500,000 and does not disclose final values of the polymer. “[A] solvent-type acrylic pressure-sensitive adhesive includes *as its main component* an acrylic copolymer having a number average molecular weight ranging from 10,000 to 500,000....Preferably, the acrylic copolymer has a number average molecular weight ranging from 100,000 to 500,000.” (emphasis added) (see EP '470, bridging paragraph of pages 6-7).

Furthermore, Applicants emphasize the criticality of the requirement that the content of low-molecular components having a molecular weight of 105 or lower is 10% by weight or lower. The Examiner believes that the less than 10% parameter is both an inherent property of at least some of the disclosed compositions as well as, alternatively, an obvious modification to one of ordinary skill in the art for the advantages attained, such as, by resource saving and improved environmental health (See Office Action, mailed October 23, 2002, paragraph 3).

Applicants submit that the range is critical to achieving specific benefits of the pressure-sensitive adhesive layer of the present invention. See the specification at page 23, first full paragraph which states that the pressure-sensitive adhesive layer is excellent in not only cohesive force but also adhesive strength. A high-molecular polymer reduced in the content of low-molecular components as presently claimed affords the following advantages. The pressure-sensitive adhesive layer is excellent in not only cohesive force but adhesive strength. In addition, the removable pressure-sensitive adhesive sheet, when used for fixing adherends thereto in work processing or the like, has such a degree of moderate tackiness as not to peel off the adherends. After the work processing or the like, this pressure-sensitive adhesive sheet can

be easily removed from the adherends without fouling them. In particular, the removable pressure-sensitive adhesive sheet, when used as, e.g., a radiation-curable pressure-sensitive adhesive sheet for semiconductor wafer processing, has high tackiness during processing such as grinding or dicing to facilitate the processing and, after the processing, can be made easily removable, through curing by irradiation with a radiation, without causing wafer breakage, etc. Furthermore, this pressure-sensitive adhesive sheet neither emits a strong odor upon curing nor leaves a fouling adhesive residue on the order of micron or submicron. Consequently, there is no possibility that the chip back side/encapsulating resin separation attributable to such fouling might occur.

For the foregoing reasons, Applicants respectfully submit that nothing in EP 470 or any other cited reference discloses or suggests individually or in combination thereof at least a final polymer with a weight average molecular weight of 930,000 to 2,100,000 and the additional elements of Claims 2 or 5.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of Claims 2 and 5.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Application No. 09/735,892

Q62230

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

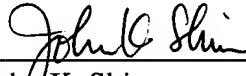
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